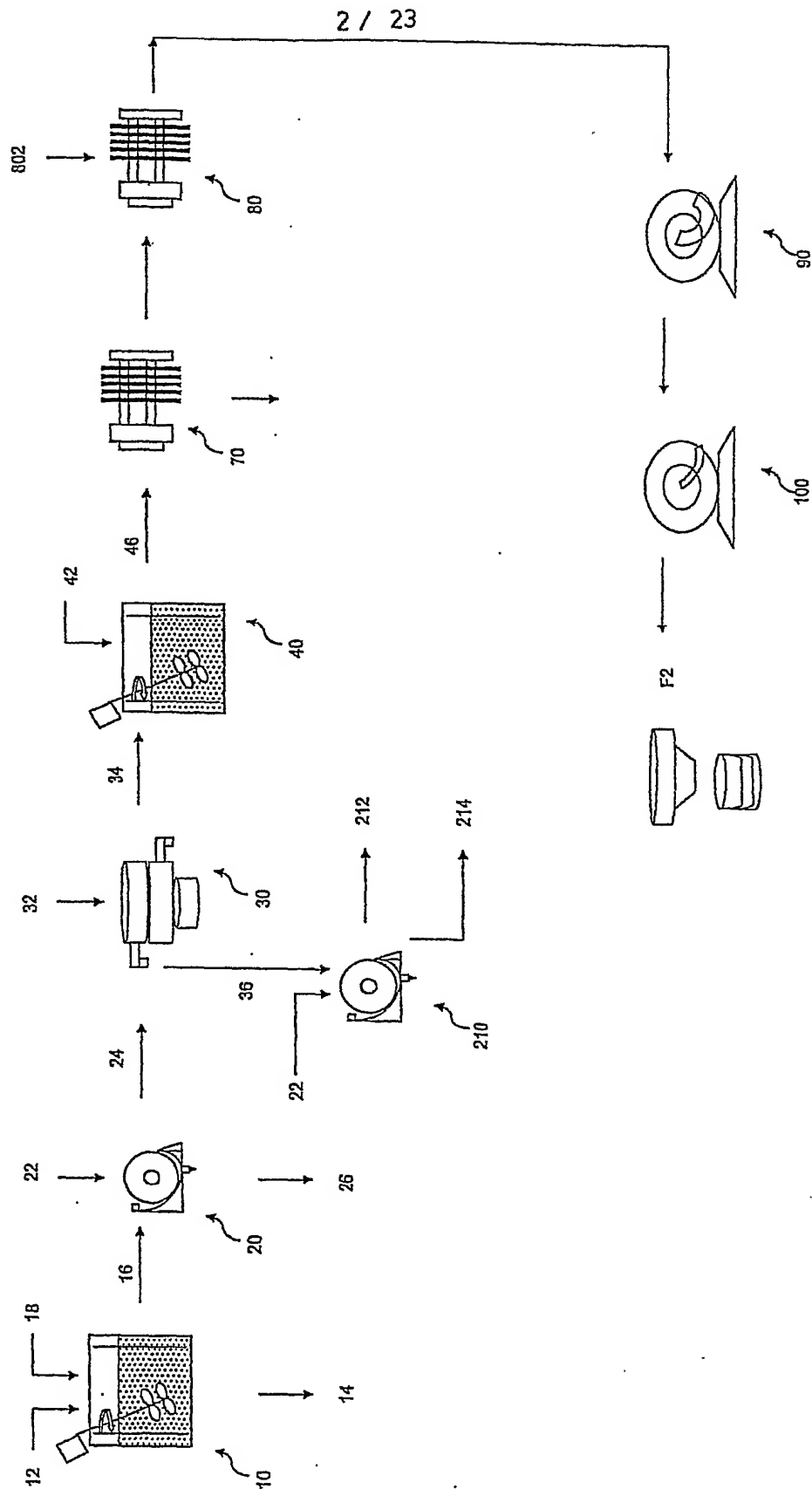


**Figure 1**

Figure 2





**Figure 4**

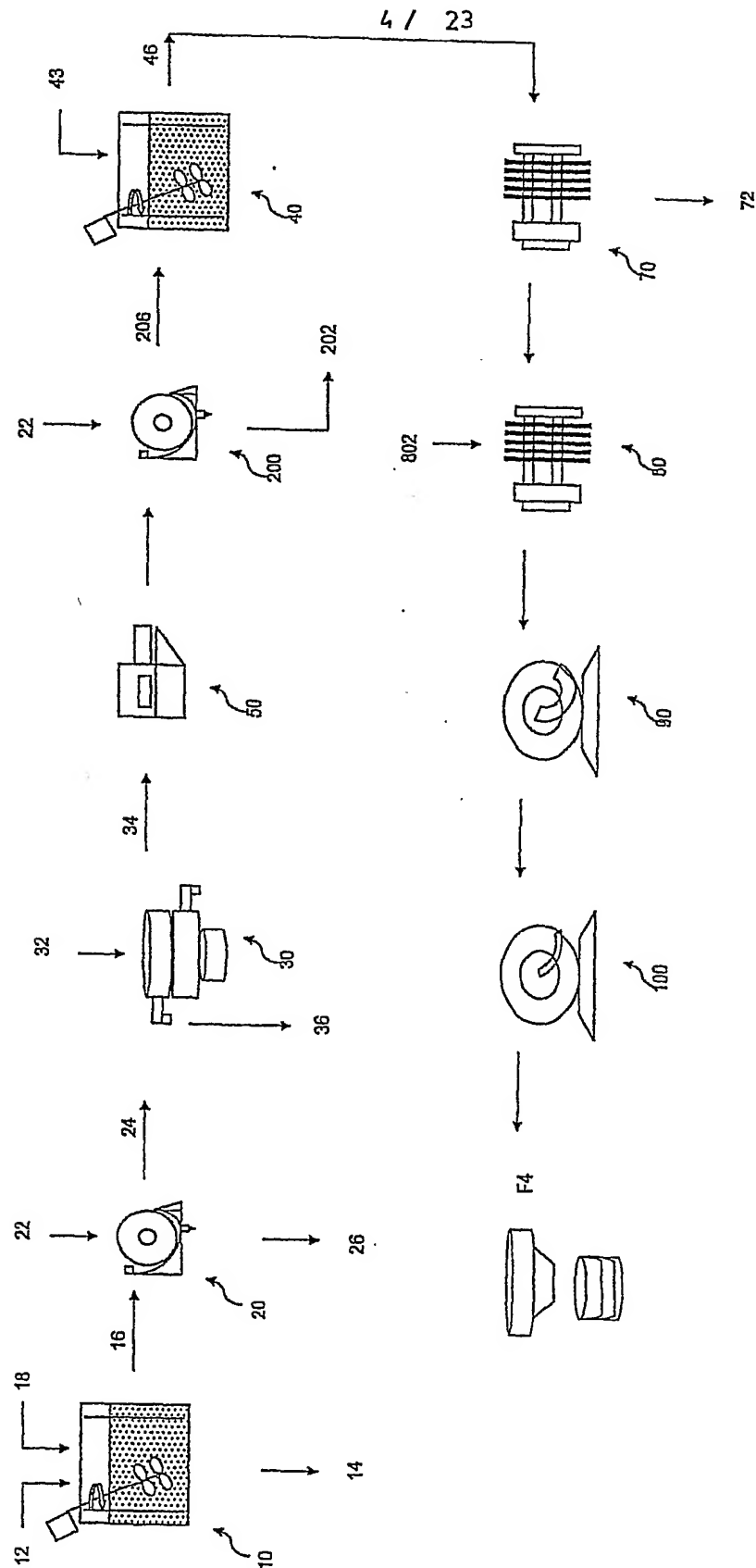


Figure 5

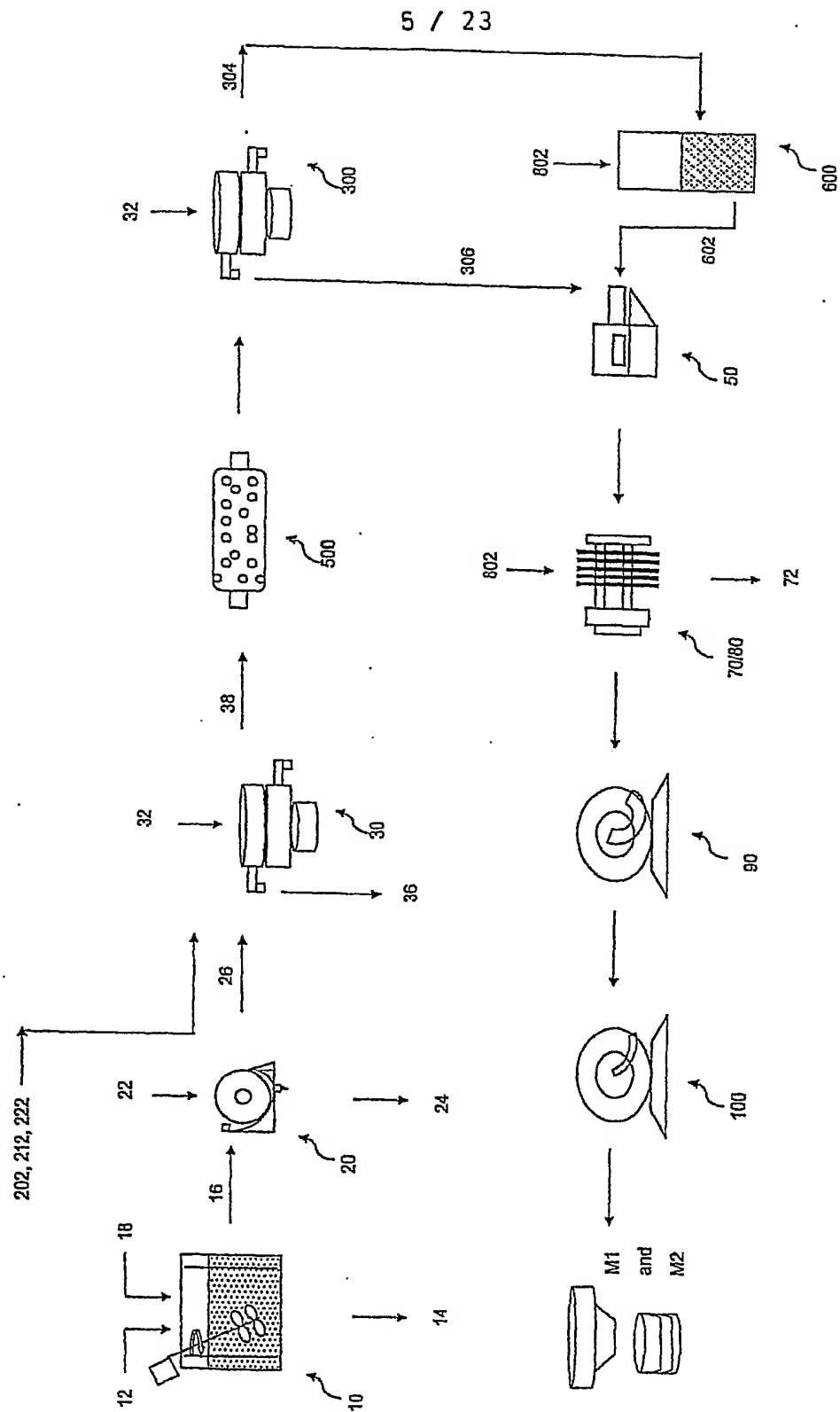
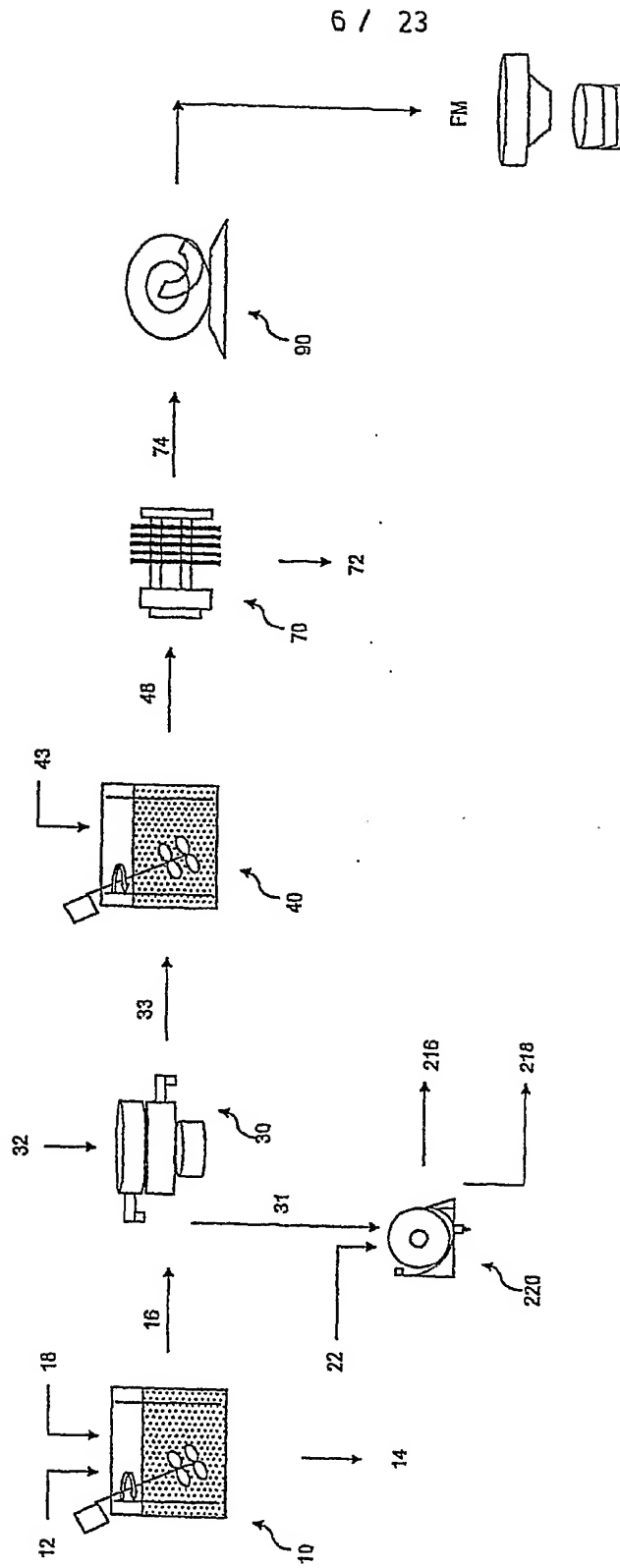


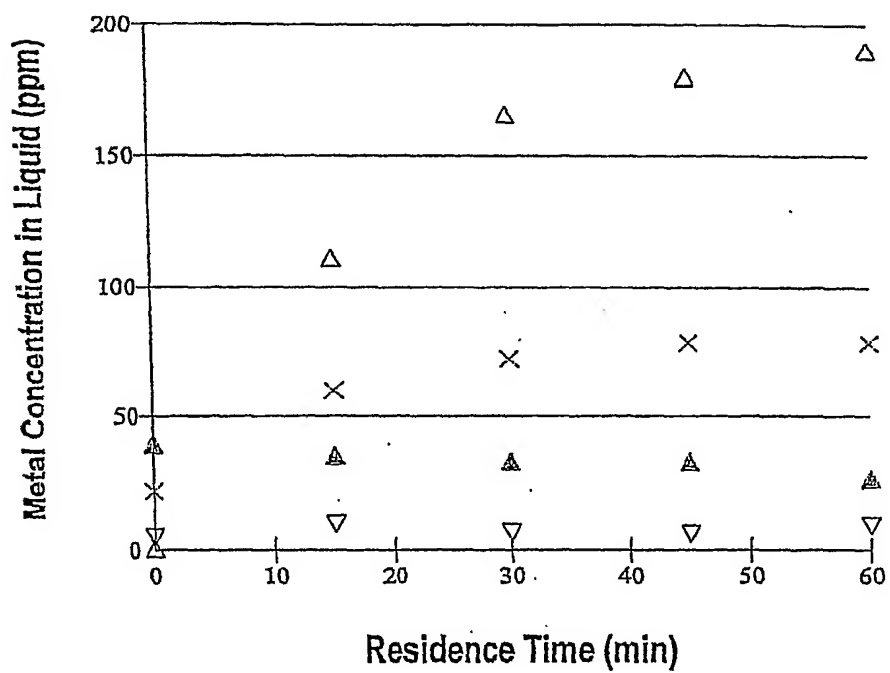
Figure 6



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Figure 7

## Metals Extraction VS Residence Time for Hydrofoil Impeller

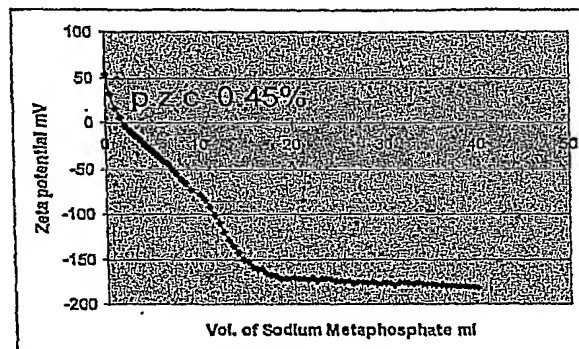


x Pb  
△ Ca  
▲ Cr  
▽ Zn

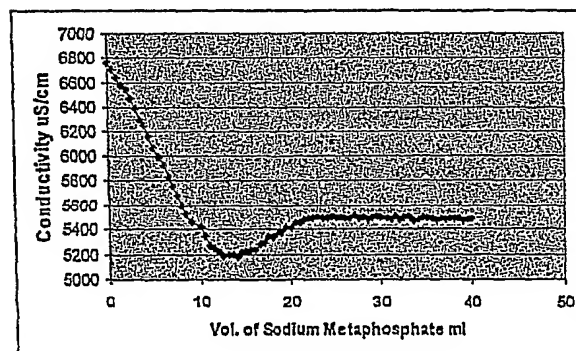
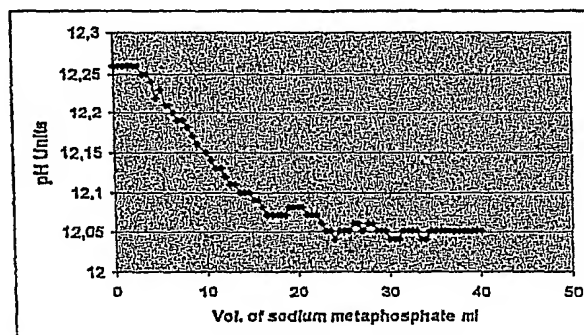
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Figure 8

Variation of Zeta Potential, pH and Conductivity VS Concentration of Sodium Metaphosphate for a Partly Washed Dust Slurry



p.z.c – point zero charge (isoelectric point)

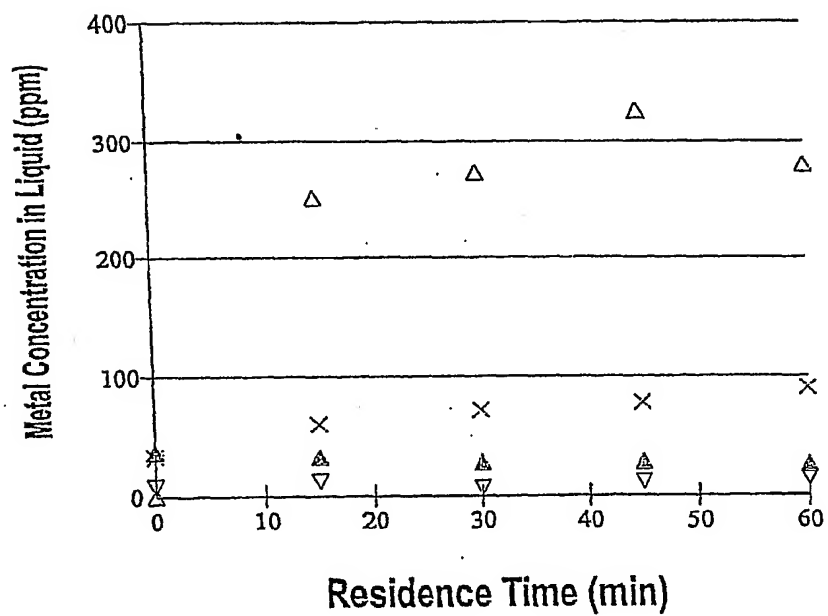




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Figure 9

Metals Extraction VS Residence Time for High Shear Impeller



X Pb  
Δ Ca  
◐ Cr  
▽ Zn

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MATRIX C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES\IRON OXIDE IN WATER TO  
30 um.MAT

VERSION	4.4	
ACOUSTIC IMPEDANCE	1.65	gm/cm/s
SOUND SPEED	149658.57	m/s
pH	11.24	
PERCENT SOLIDS,VOLUME	0.58	

SOLVENT 

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	625.75	$\mu\text{S} / \text{Cm}$
TEMPERATURE	24.28	DEG. C
FIXED LOSS	7.19	dB
DENSITY	1.10	gm / Cm <sup>3</sup>

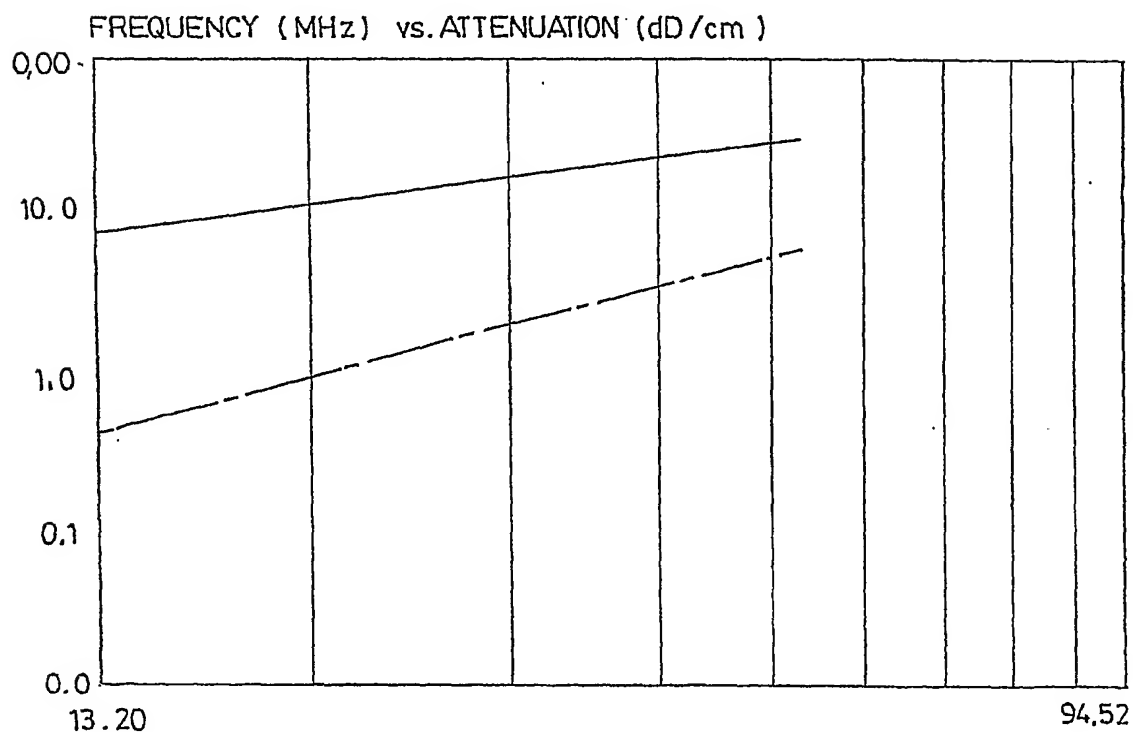


FIG. 10A

SAMPLE ATTN. —————

SOLVENT ATTN. - - - - -

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MATRIX ☐

C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES\IRON OXIDE IN WATER TO  
30 um.MAT

VERSION	4.4	
ACOUSTIC IMPEDANCE	1.65	gm/cm/s
SOUND SPEED	149658.57	m/s
pH	11.24	
PERCENT SOLIDS,VOLUME	0.58	

SOLVENT ☐

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	625.75	$\mu\text{S} / \text{Cm}$
TEMPERATURE	24.28	DEG. C
FIXED LOSS	7.19	dB
DENSITY	1.10	gm / Cm <sup>3</sup>

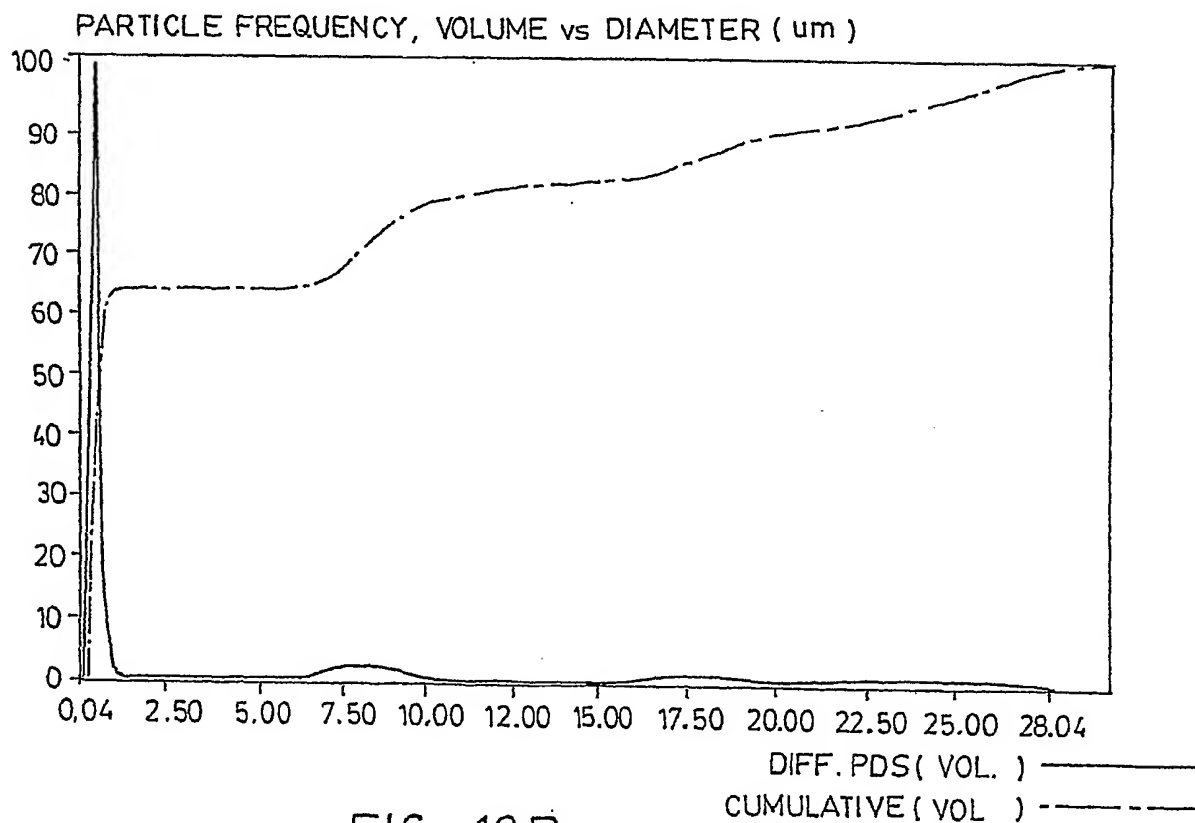


FIG. 10B

SUBSTITUTE SHEET (RULE 26)

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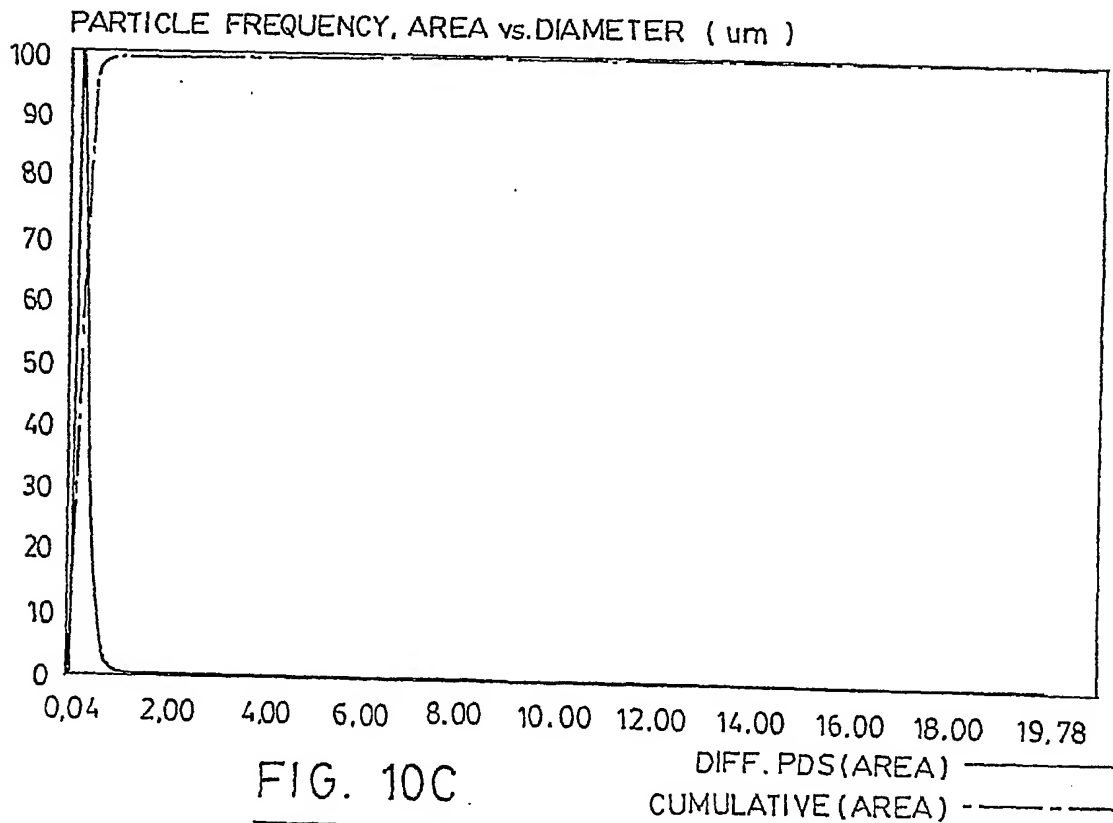
MATRIX ☐C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES\IRON OXIDE IN WATER TO  
30 um.MAT

VERSION	4.4	
ACOUSTIC IMPEDANCE	1.65	gm/cm/s
SOUND SPEED	149658.57	m/s
pH	11.24	
PERCENT SOLIDS, VOLUME	0.58	

SOLVENT ☐

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	625.75	$\mu S / Cm$
TEMPERATURE	24.28	DEG. C
FIXED LOSS	7.19	dB
DENSITY	1.10	gm / Cm <sup>3</sup>



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MATRIX ☐

C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES\IRON OXIDE IN WATER TO  
30 um.MAT

VERSION	4.4	
ACOUSTIC IMPEDANCE	1.65	gm/cm/s
SOUND SPEED	149658.57	m/s
pH	11.24	
PERCENT SOLIDS,VOLUME	0.58	

SOLVENT ☐

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	625.75	$\mu\text{S} / \text{Cm}$
TEMPERATURE	24.28	DEG. C
FIXED LOSS	7.19	dB
DENSITY	1.10	gm / Cm <sup>3</sup>

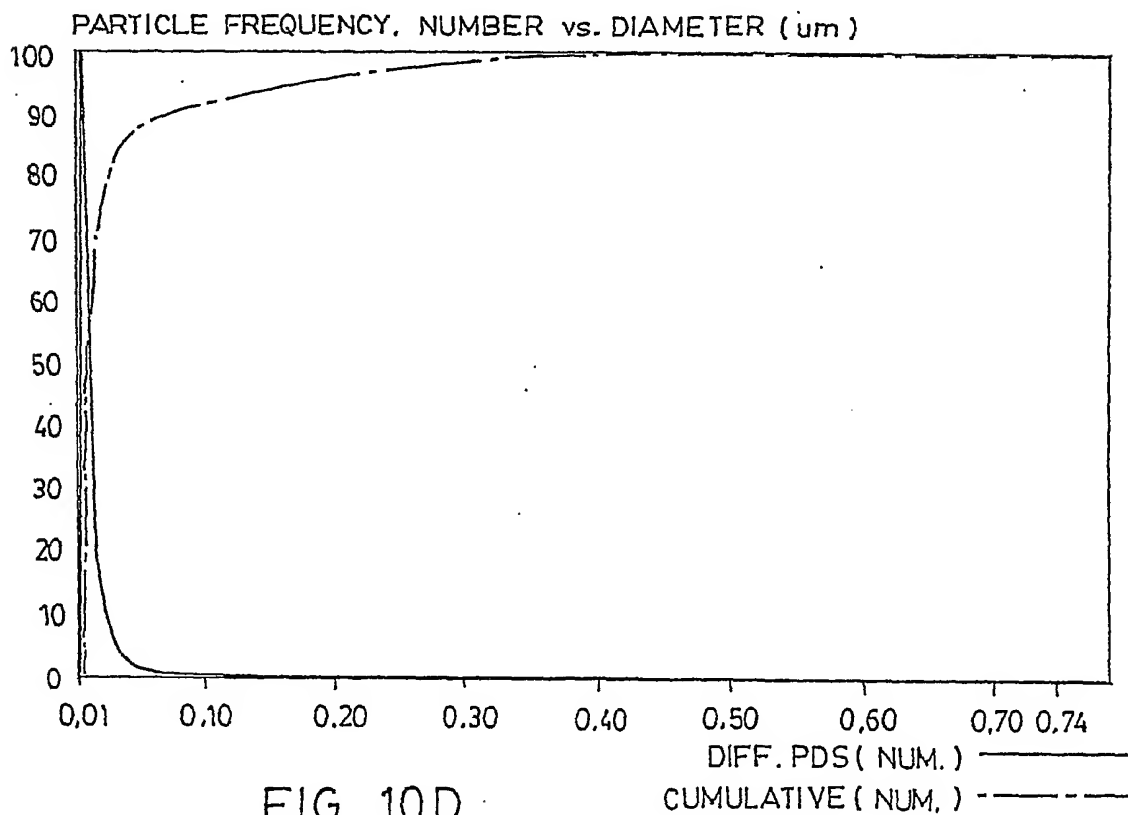


FIG. 10D

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MATRIX ☐C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES \ IRON OXIDE IN WATER TO  
30 um. MAT

VERSION	4.4	
ACOUSTIC IMPEDANCE	1.75	gm / cm / s
SOUND SPEED	148998.63	m / s
pH	11.33	
PERCENT SOLIDS, VOLUME	0.69	

SOLVENT ☐

C:\ACOUSTIC PARTICLE SIZER\CAL\ WATER

CONDUCTIVITY	701.44	$\mu\text{S} / \text{Cm}$
TEMPERATURE	24.44	DEG. C
FIXED LOSS	7.20	dB
DENSITY	1.18	gm / Cm <sup>3</sup>

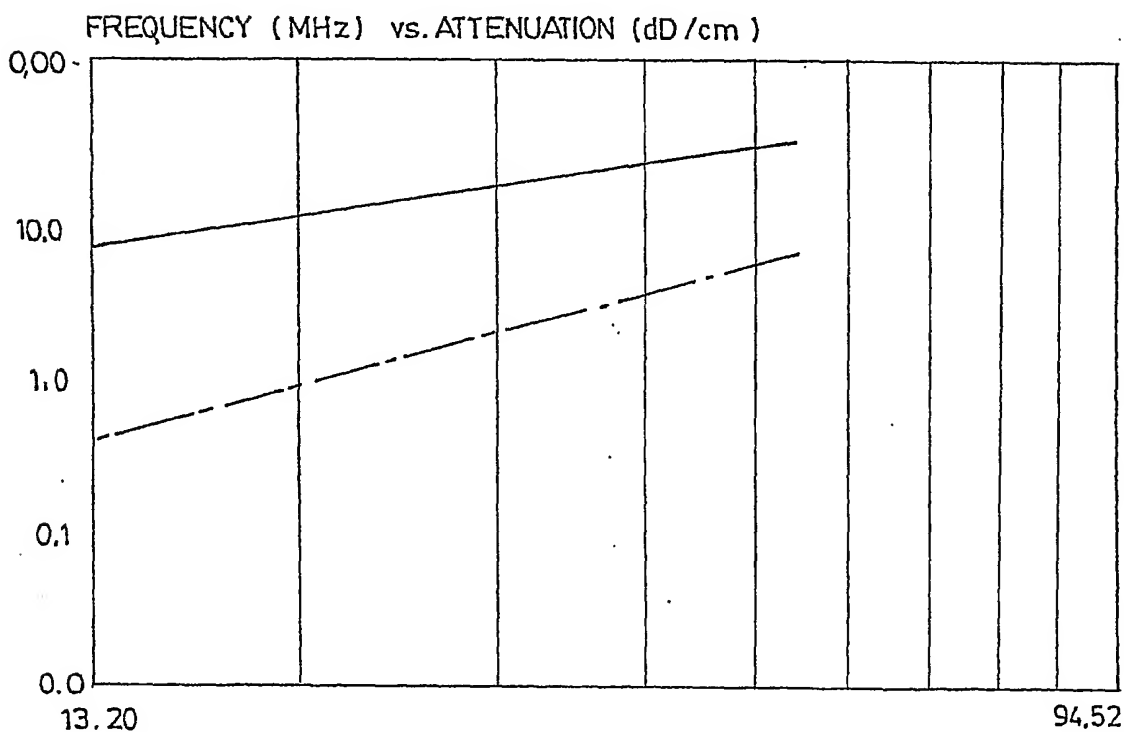


FIG. 11A

SAMPLE ATTN. —————  
SOLVENT ATTN. - - - - -

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MATRIX ☐C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES\IRON OXIDE IN WATER TO  
30 um.MAT

VERSION	4.4	
ACOUSTIC IMPEDANCE	1.75	gm / cm / s
SOUND SPEED	148998.63	m / s
pH	11.33	
PERCENT SOLIDS, VOLUME	0.69	

SOLVENT ☐

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	701.44	$\mu\text{S} / \text{Cm}$
TEMPERATURE	24.44	DEG. C
FIXED LOSS	7.20	dB
DENSITY	1.18	gm / Cm <sup>3</sup>

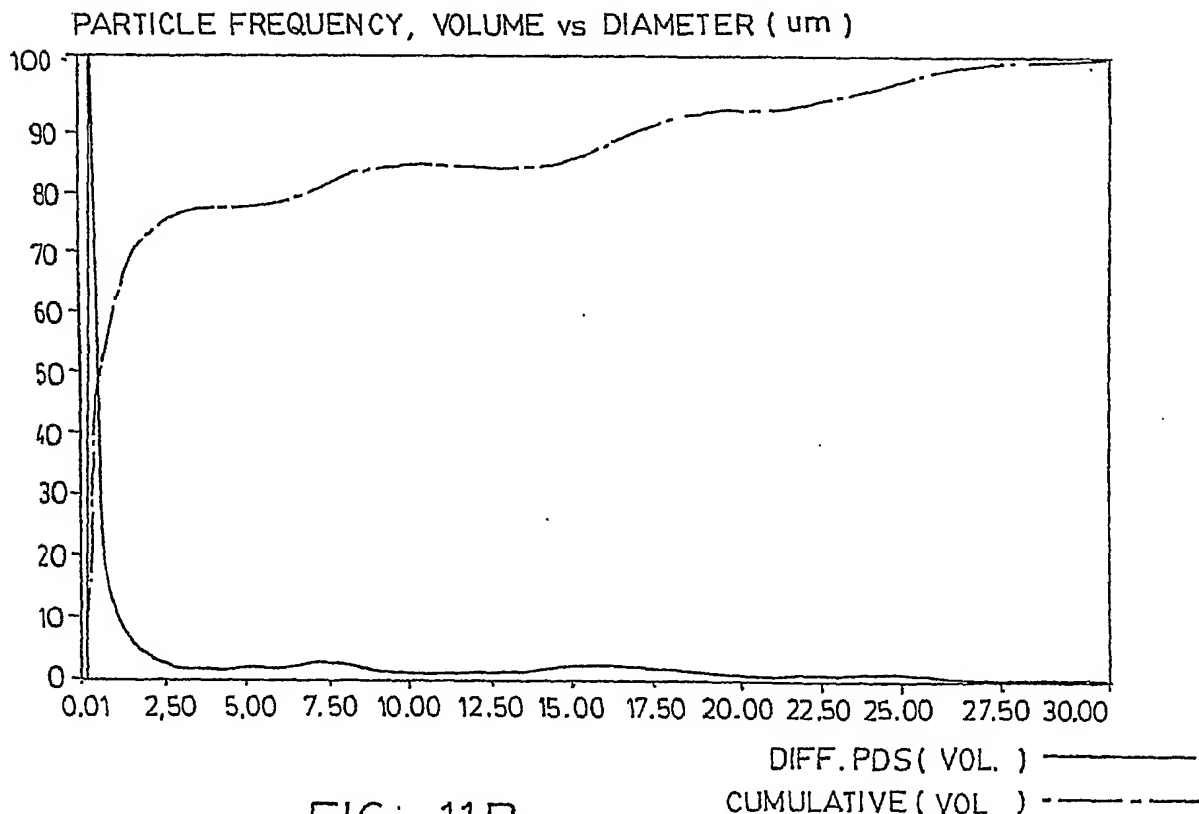



FIG: 11B

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MATRIX 

C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES\IRON OXIDE IN WATER TO  
30 um. MAT

VERSION	4.4	
ACOUSTIC IMPEDANCE	1.75	gm/cm/s
SOUND SPEED	148998.63	m/s
pH	11.33	
PERCENT SOLIDS, VOLUME	0.69	

SOLVENT 

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	701.44	$\mu\text{S} / \text{Cm}$
TEMPERATURE	24.44	DEG. C
FIXED LOSS	7.20	dB
DENSITY	1.18	gm / Cm <sup>3</sup>

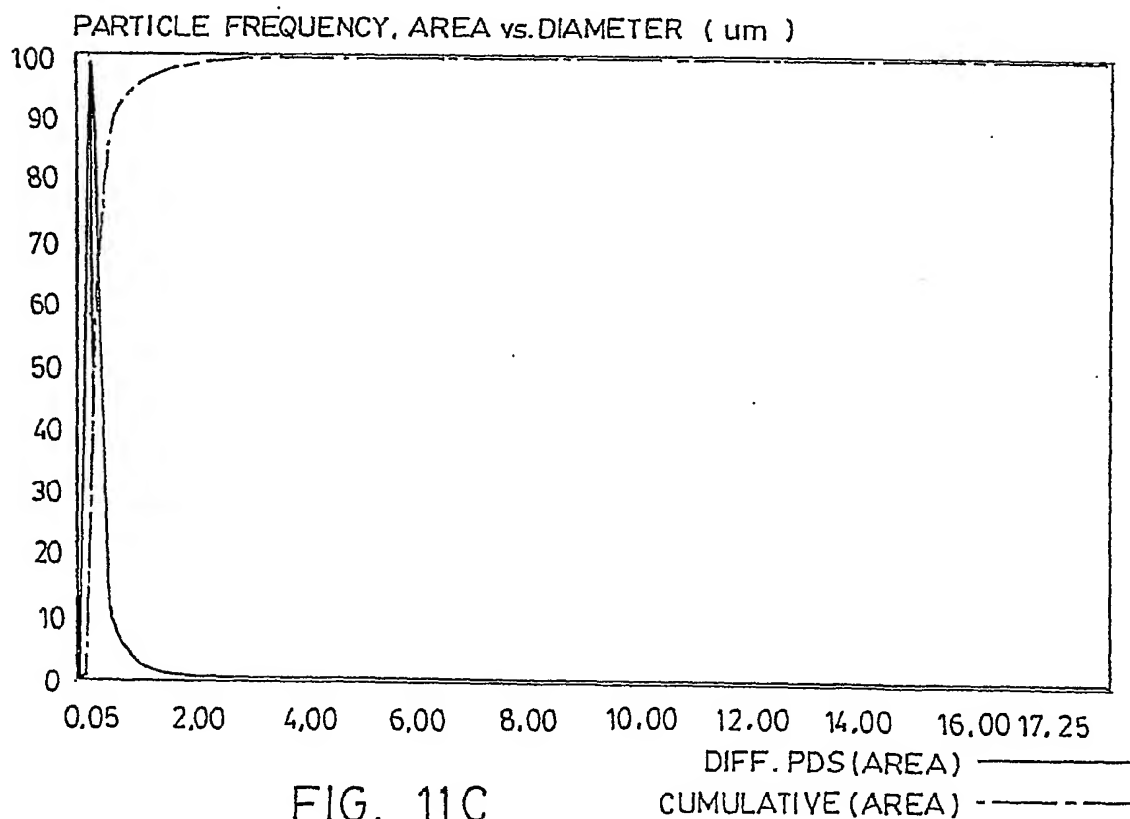


FIG. 11C



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MATRIX ☐C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES\IRON OXIDE IN WATER TO  
30 um.MAT

VERSION	4.4	
ACOUSTIC IMPEDANCE	1.75	gm/cm/s
SOUND SPEED	148998.63	m/s
pH	11.33	
PERCENT SOLIDS, VOLUME	0.69	

SOLVENT ☐

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	701.44	$\mu S / Cm$
TEMPERATURE	24.44	DEG. C
FIXED LOSS	7.20	dB
DENSITY	1.18	gm / Cm <sup>3</sup>

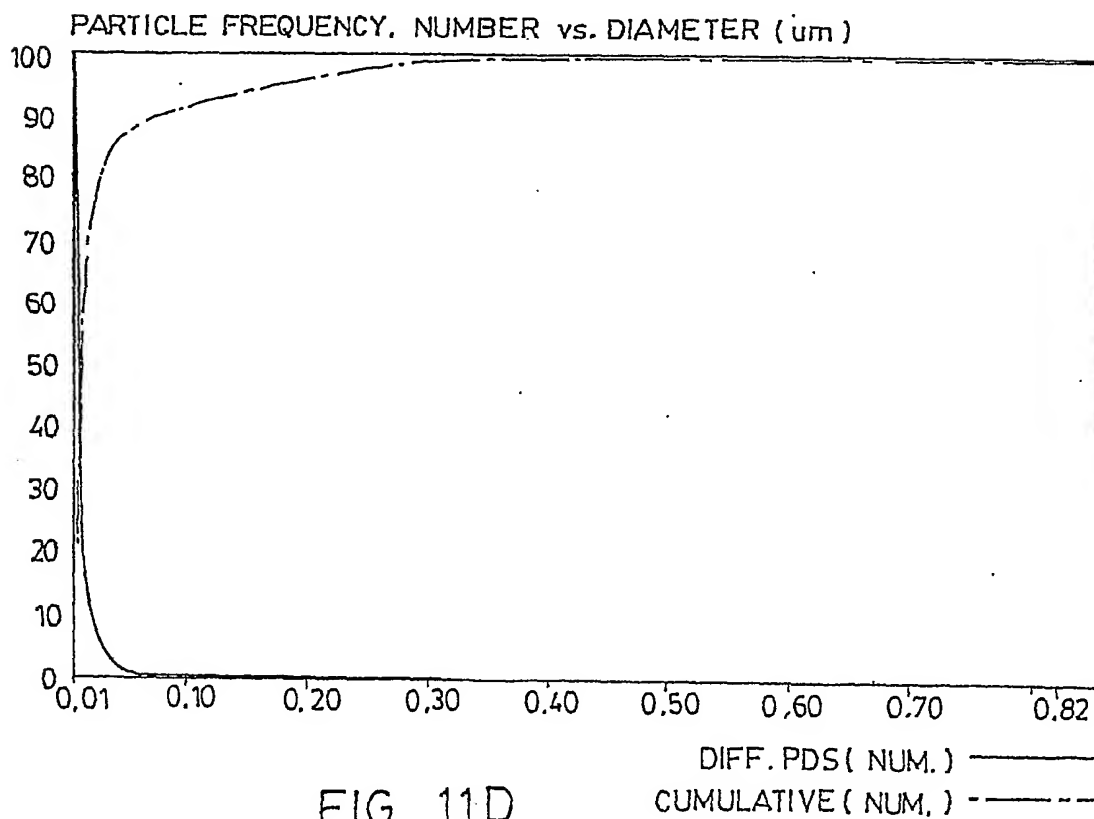



FIG. 11D

SUBSTITUTE SHEET (RULE 26)

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MATRIX C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES \ IRON OXIDE IN WATER TO  
30 um. MAT

VERSION	4 . 4	
ACOUSTIC IMPEDANCE	1 . 75	gm /cm /s
SOUND SPEED	148658 . 25	m /s
pH	11 . 26	
PERCENT SOLIDS, VOLUME	1 . 54	

SOLVENT 

C:\ACOUSTIC PARTICLE SIZER\CAL\ WATER

CONDUCTIVITY	748 . 67	$\mu\text{S} / \text{Cm}$
TEMPERATURE	22 . 68	DEG. C
FIXED LOSS	7 . 17	dB
DENSITY	1 . 18	gm / Cm <sup>3</sup>

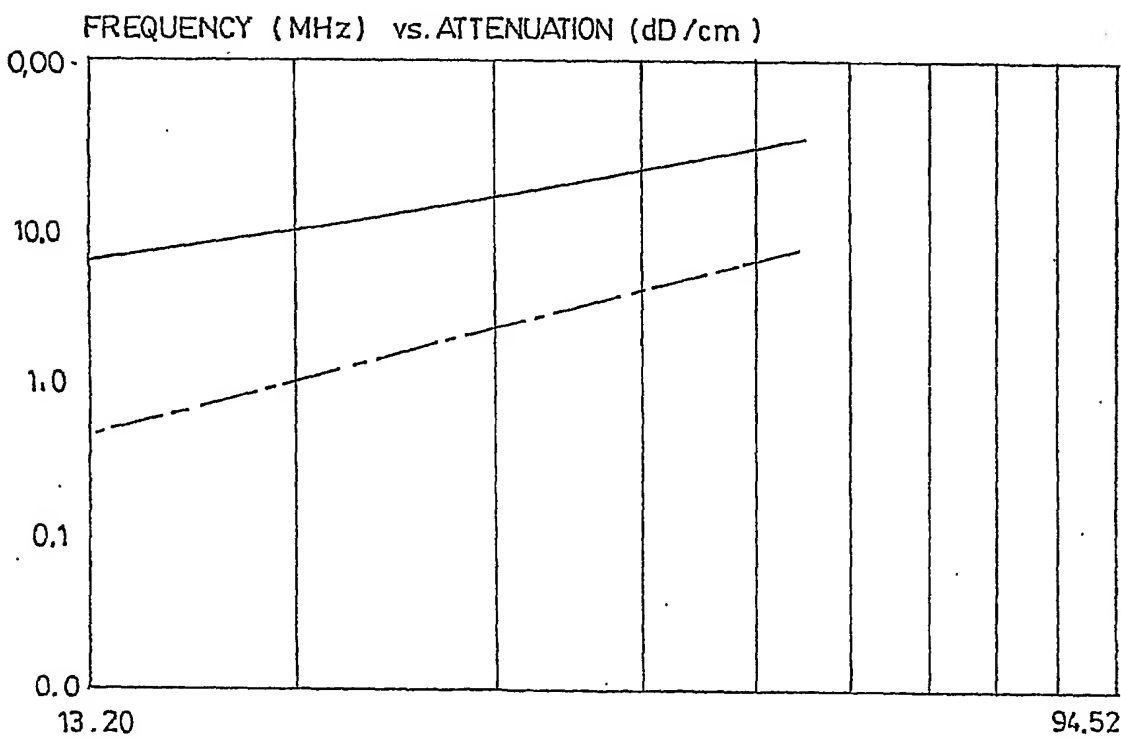


FIG. 12A

SAMPLE ATTEN. —————

SOLVENT ATTEN. - - - - -

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MATRIX ☐C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES\IRON OXIDE IN WATER TO  
30 um.MAT

VERSION	4.4	
ACOUSTIC IMPEDANCE	1.75	gm/cm/s
SOUND SPEED	148658.25	m/s
pH	11.26	
PERCENT SOLIDS,VOLUME	1.54	

SOLVENT ☐

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	748.67	$\mu\text{S} / \text{Cm}$
TEMPERATURE	22.68	DEG. C
FIXED LOSS	7.17	dB
DENSITY	1.18	gm / Cm <sup>3</sup>

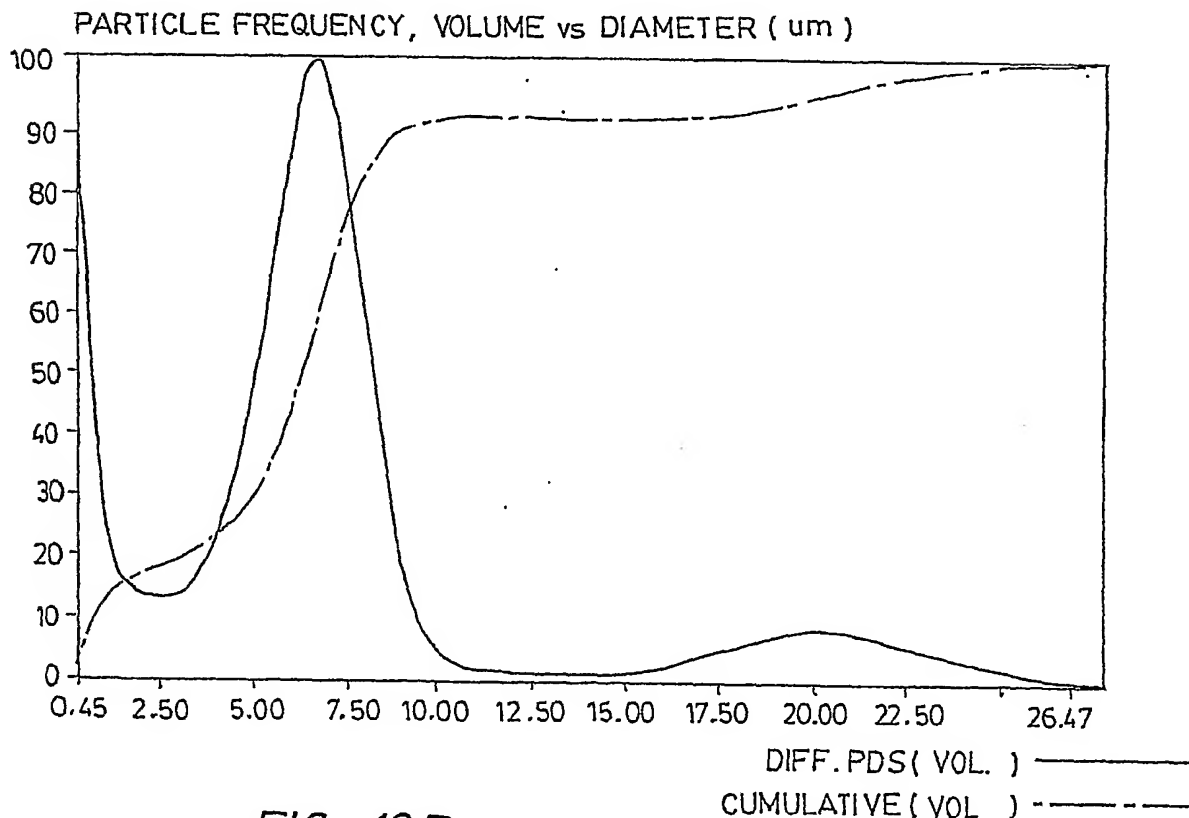


FIG. 12 B

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MATRIX ☐C:\ACOUSTIC PARTICLE SIZER\APS -  
MATRICIES \ IRON OXIDE IN WATER TO  
30 um. MAT

VERSION	4 . 4	
ACOUSTIC IMPEDANCE	1 . 75	gm /cm /s
SOUND SPEED	148658 . 25	m /s
pH	11 . 26	
PERCENT SOLIDS, VOLUME	1 . 54	

SOLVENT ☐

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	748 . 67	$\mu S / Cm$
TEMPERATURE	22 . 68	DEG. C
FIXED LOSS	7 . 17	dB
DENSITY	1 . 18	gm / Cm <sup>3</sup>

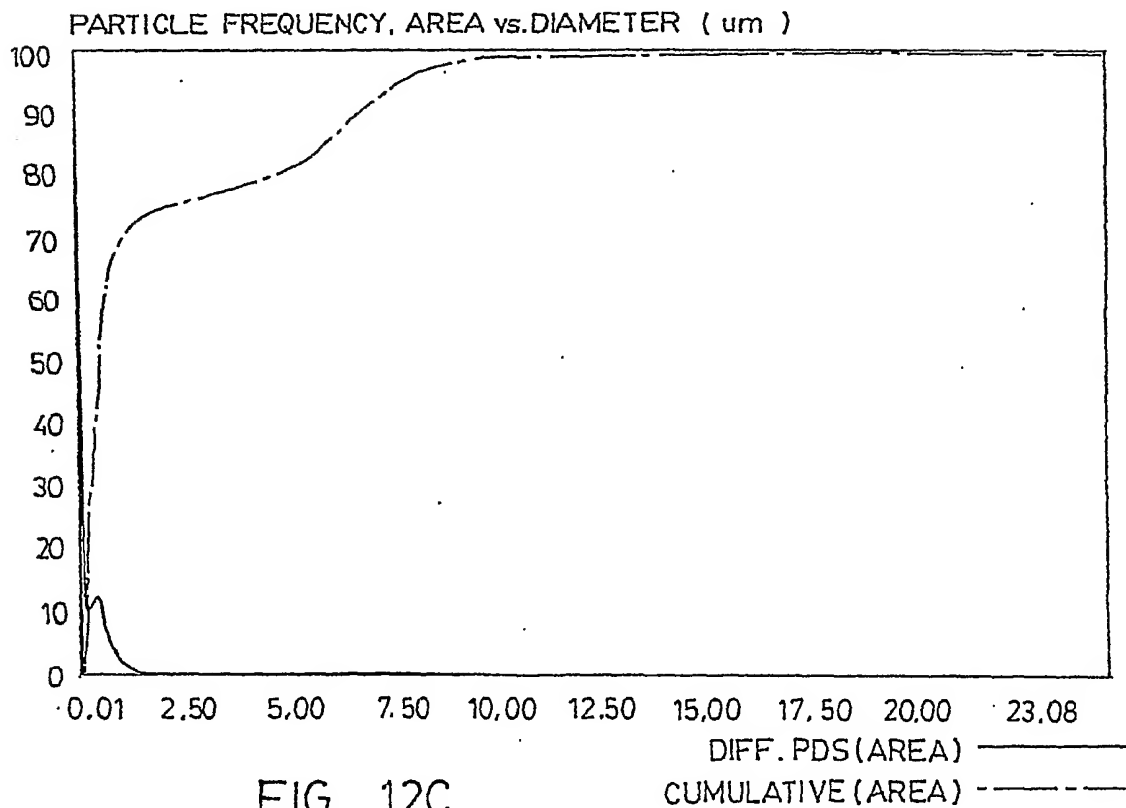


FIG. 12C

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MATRIX ☐

C:\ACOUSTIC PARTICLE SIZER\APS-  
MATRICIES\IRON OXIDE IN WATER TO  
30 um.MAT

.VERSION	4.4	
ACOUSTIC IMPEDANCE	1.75	gm/cm/s
SOUND SPEED	148658.25	m/s
pH	11.26	
PERCENT SOLIDS,VOLUME	1.54	

SOLVENT ☐

C:\ACOUSTIC PARTICLE SIZER\CAL\WATER

CONDUCTIVITY	748.67	$\mu\text{S} / \text{Cm}$
TEMPERATURE	22.68	DEG. C
FIXED LOSS	7.17	dB
DENSITY	1.18	gm / Cm <sup>3</sup>

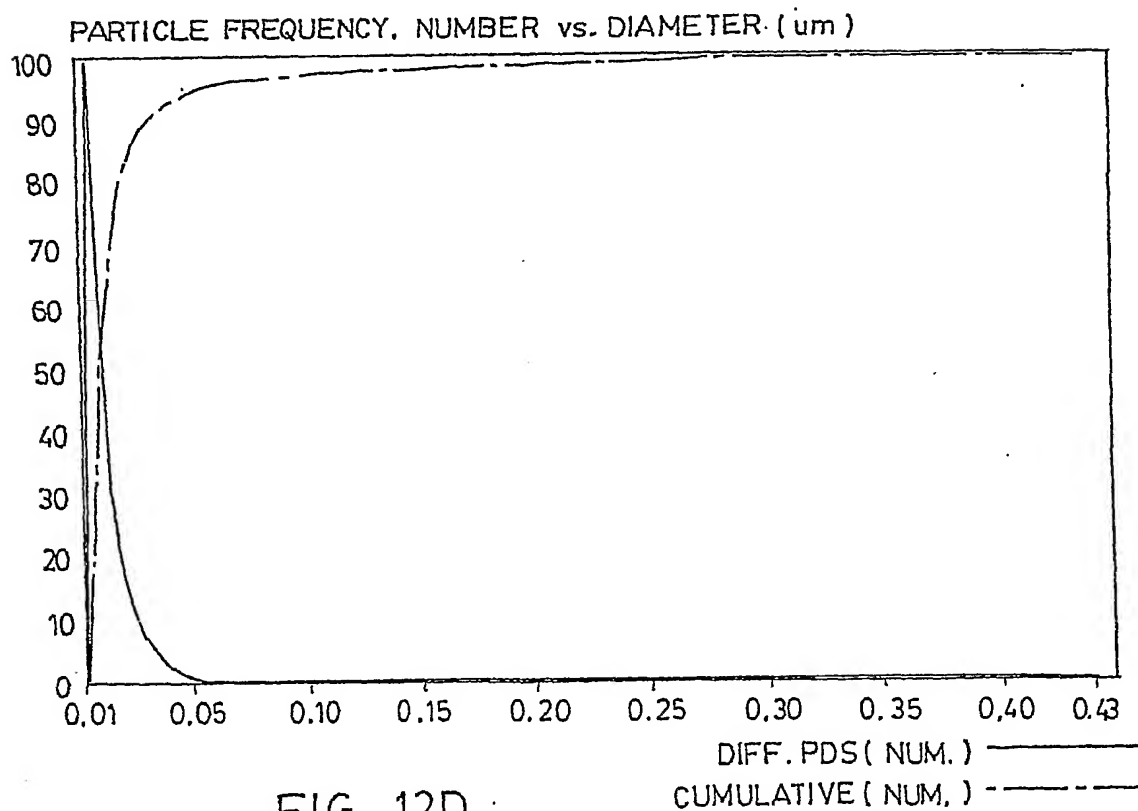


FIG. 12D

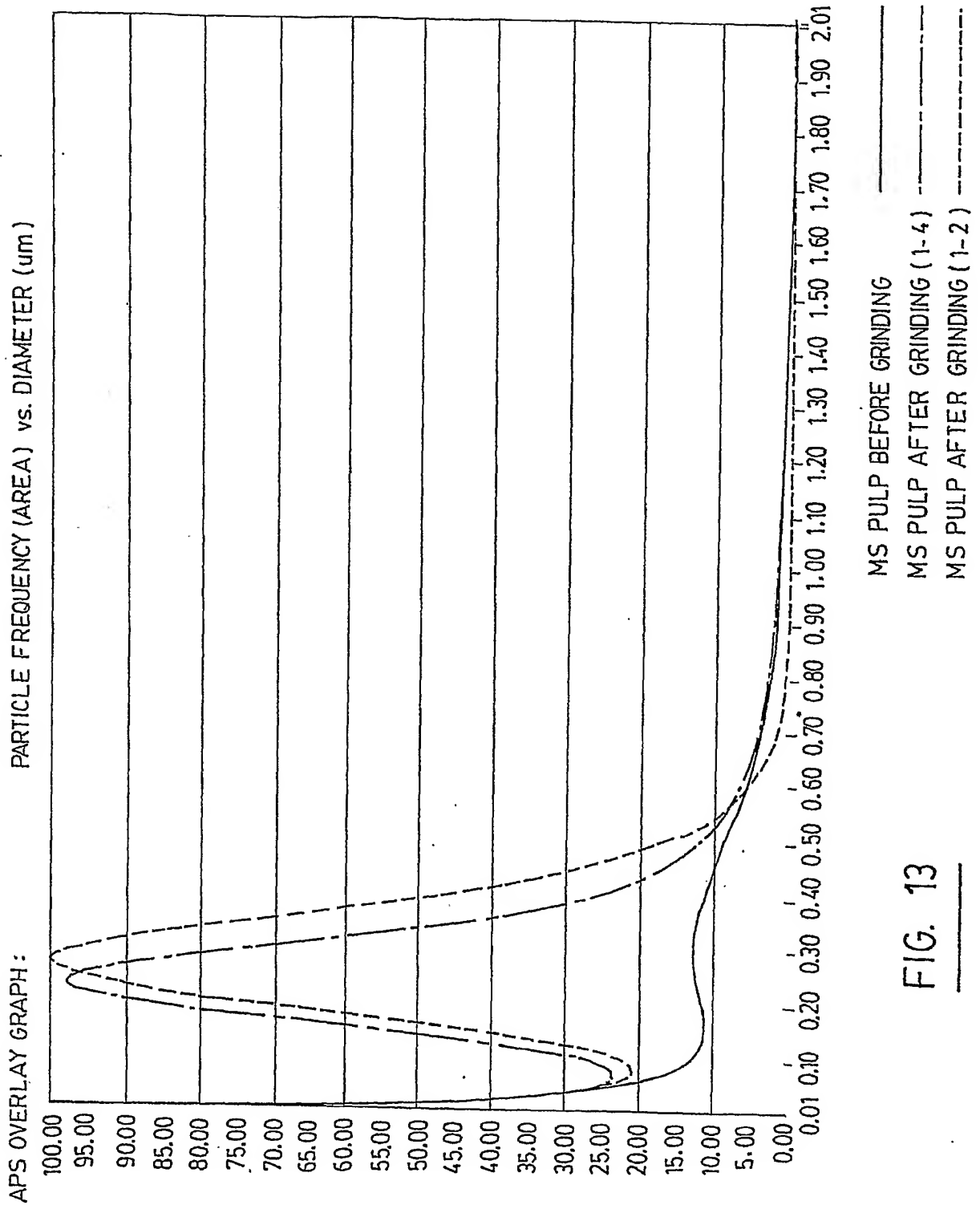


FIG. 13

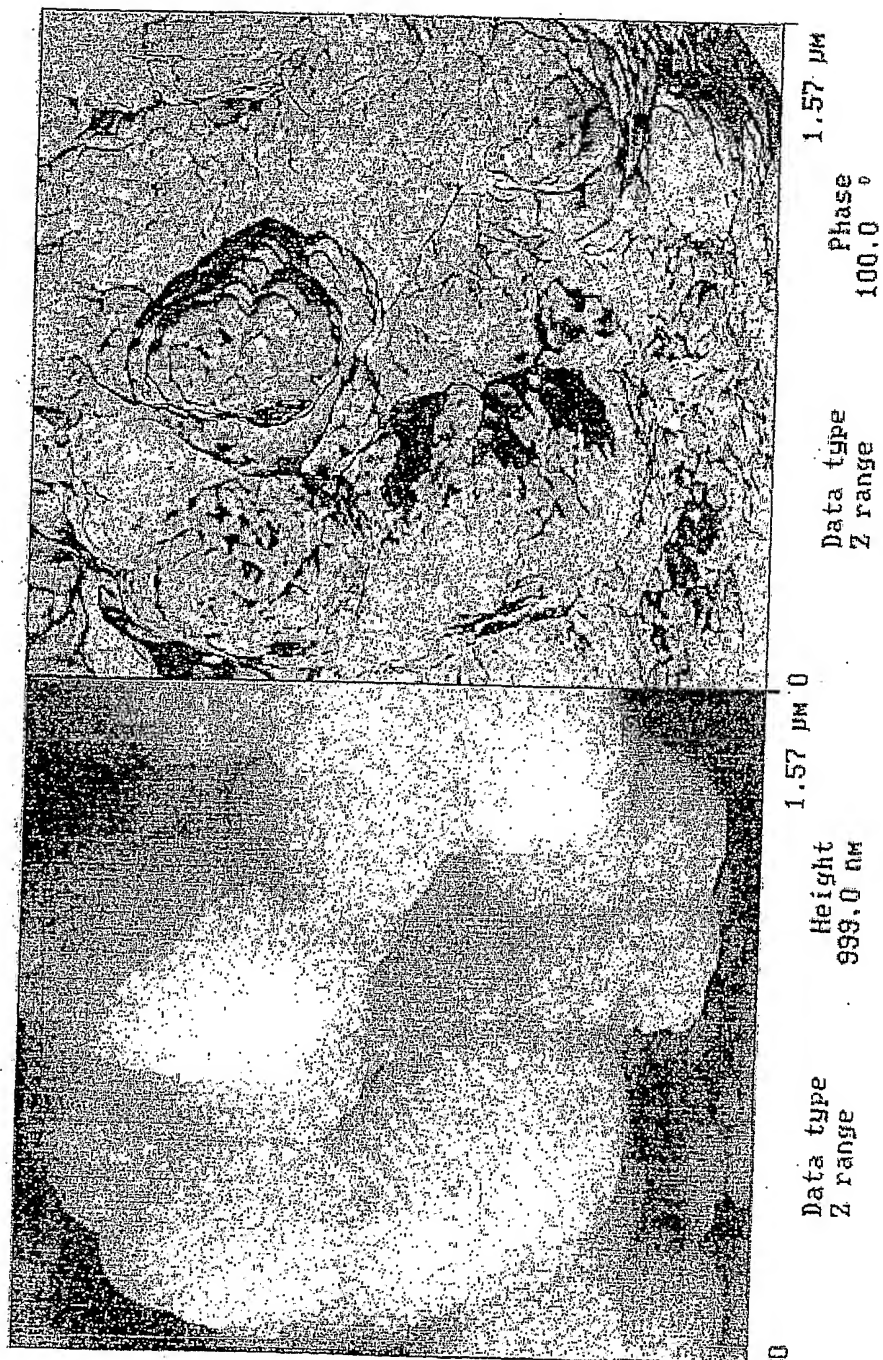


FIG. 14